

REMARKS/ARGUMENTS

The claims have been clarified so as to be consistent with the specification as originally filed. Amendments to Claim 1 find support at specification page 6, line 1, and page 4, lines 13-14. Other amendments to Claims 2-9 are more formal in nature, placing the claims in conventional U.S. format, providing antecedent basis, etc.

New Claim 10 specifically requires that the crystallization of sesquicarbonate crystals in b) be carried out without preliminary evaporation of the aqueous suspension, as supported by Claim 1 and Examples 1 and 2 at specification pages 7-8. New Claims 11-18 repeat claims 2-9 but depend, directly or ultimately, on claim 10. Finally, New Claims 19 and 20 are supported at specification page 4, lines 28-32. No new matter has been entered.

As the Examiner has noted, Tanaka (U.S. 6,207,123) is described in the present specification at page 2, top. Review of this patent shows that Applicants' specification description of this patent is accurate: water is evaporated from the aqueous solution in order to precipitate sodium sesquicarbonate. Preferably this is done in an evaporator with temperature control. See col. 5, lines 10-37.

Thus, even in the case where Applicant's crystallization of sesquicarbonate crystals *can be*, but need not be, carried out without preliminary evaporation of the aqueous suspension (e.g., Claim 1 herein) Tanaka does not suggest Applicants' claimed method because Tanaka does not suggest that the amount of sodium carbonate added to the first aqueous solution should be adjusted so that sodium sesquicarbonate solubility is exceeded such that sodium sesquicarbonate will precipitate simply upon setting. See col. 3, lines 9-19 and col. 4, line 61 – col. 5, line 2 of Tanaka. In fact, such pre-addition of sodium sesquicarbonate in this claimed amount clearly would be *counter* to Tanaka's teaching at col. 5, lines 10-29 requiring the careful evaporation of water from the aqueous solution in order to

controllably adjust the concentration of sodium sesquicarbonate and thereby cause its precipitation while holding sodium carbonate in solution:

This aqueous solution is then supplied to an evaporator, where a part of water will be removed. Here, if the temperature of the second aqueous solution is high, it is likely that sodium carbonate monohydrate will precipitate together with sodium sesquicarbonate. Therefore, the temperature is preferably maintained at a level of from 30 to 60°C. If sodium carbonate monohydrate will precipitate, the concentration of sodium carbonate in the mother liquor will decrease correspondingly, and the yield of sodium carbonate recovered from the mother liquor will decrease, such being undesirable. Specifically, water is removed while preventing precipitation of sodium carbonate monohydrate at a temperature of about 60 °C under reduced pressure, and then the liquid temperature is lowered to a level of from 35 to 40 °C to precipitate sodium sesquicarbonate. When crystallization of sodium sesquicarbonate is carried out continuously, it is preferred to carry out the operation under a reduced pressure of from 40 to 130 torr, while maintaining the temperature at a level of from 35 to 40 °C where the solubility of sodium carbonate is high. (emphasis added).

Of course, for those claims pending herein where the crystallization of sesquicarbonate crystals *is* carried out without preliminary evaporation of the aqueous suspension (e.g., Claim 10 herein) Tanaka clearly does not suggest Applicants' claimed method and again teaches away from such a method by requiring careful evaporation of the aqueous solution in order to precipitate sodium sesquicarbonate.

Accordingly, Applicants respectfully submit that the claims pending herein are patentably distinct from the teachings of Tanaka regardless whether the crystallization of sesquicarbonate crystals is or is not carried out without preliminary evaporation of the aqueous suspension. The adjustment of the amount of sodium carbonate added in a) herein such that sodium sesquicarbonate solubility is exceeded is antithetical to the process of Tanaka. The rejections should be withdrawn.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Richard L. Treanor
Attorney of Record
Registration No. 36,379

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)